

REMARKS:

Claims 7-11 are in the case and presented for consideration.

The newly presented claims have been drafted to satisfy 35 U.S.C. 112 and are believed to be in proper form.

The examiner has rejected former claims 1, 5 and 6 as being fully anticipated by U.S. Patent 3,052,925 to Bronnenkant et al. Claim 2 is also rejected as being obvious from this reference in view of U.S. Patent 6,322,347 to Xu. Claims 1 and 2 are also rejected as being obvious from a combination of Xu in view of U.S. Patent 4,266,928 to Weidner et al.

New independent claim 7 is based on the originally filed claim 1 and is supplemented by the feature that the shut-off means is opened in a controlled manner and in order to modify the pressure pattern in the mold cavity. Corresponding disclosure can be found on page 3 of the specification, lines 9 to 12.

Bronnenkant discloses a process for injecting plastic material wherein the material is stored under compression and then “explodes” into the mold cavity when released by a nozzle valve. The valve is opened when the injection unit is moved toward the mold, at the moment when the valve touches the mold. Therefore, Bronnenkant does not disclose a shut-off means which is opened in a controlled manner in order to modify the pressure pattern in the mold cavity.

The Xu reference only discloses an injection molding systems where the plastic material is injected into the mold with the help of a moving screw or plunger. Weidner is dedicated to a completely different process wherein styropor particles are sucked into the mold by a vacuum. Afterwards the sintering process is accelerated by feeding

steam into the mold.

None of the cited references teaches a process for injection molding based on an expansion process wherein the shut-off means is opened in a controlled manner in order to modify the pressure pattern in the mold cavity. Claim 7 is, therefore, believed to be novel.

The Bronnenkant patent discloses an expansion process. But, Bronnenkant does not teach that it is very important to be able to precisely control the pressure pattern when opening the shut-off means in order to be able to adapt the pressure drop when opening the shut-off means to a particular design of the injection molded article. This is only possible by using the controllable shut-off means of claim 7.

Neither Weidner nor Xu offer any hint on how the process disclosed in the Bronnenkant patent could be improved to modify the pressure pattern when "exploding" the plastic material into the mold.

A combination of Bronnenkant with Xu or Weidner would, therefore, not render claim 7 obvious to the person having ordinary skill in the art, nor would any other combination of Xu and Weidner since neither of these references disclose the process of the present invention.

Dependent claims 8-11 are believed to distinguish the invention even further from the prior art and the application and claims are believed to be in condition for allowance.

The Examiner is respectfully invited to telephone the undersigned with any suggestions in the interest of reaching a conclusion to the prosecution of this case.

Favorable action is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Peter C. Michalos', is written over a horizontal line.

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